

# Work Order ID 104613

\*104613\*

Page 1

July-12-13 10:30:44 AM

Item ID: D6202 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: I-Beam Extrusion  
 Start Date: 7/12/13 Start Qty: 12.00 Cust Item ID:  
 Required Date: 7/12/13 Req'd Qty: 12.00 Customer:  
 Reference:

Approvals: Process Plan: MLJ Date: 12-07-15 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_  
 Run Start \*NR1\*  
 Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6202	Rev A

100 PURCHASING 0.00  
 \*100\* 21209 0.00  
 Purchasing Memo  
 Purchasing Issue P/O: 20607  
 a) Description: American standard I-beam 4.000" x 2.796" x 0.326" thick  
 b) Material: 6061-T6/T651 (QQ-A-200/8)  
 c) Minimum ultimate tensile strenght = 38 ksi  
 d) Minimum yield tensile strenght = 35 ksi  
 e) Material cert"s is required  
 \*\*\*EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.\*\*\*  
 \*\*\*MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE\*\*\*

2574 C213109105  
~~12-13-07-17~~

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____
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Page 2

## Packaging

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			

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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
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Training									
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**Work Order ID 104613****\*104613\***

Page 3

July-12-13 10:30:44 AM

Item ID: D6202

Accept

**\*N9000040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: I-Beam Extrusion

Start Date: 7/12/13 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 7/12/13 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Run Start **\*NR1\***

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursTool ID Tool # Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

QC21- Final Inspection - Work Order Release

0.00

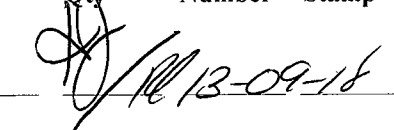
**\*140\***

QC

Memo

0.00

Quality Control



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Transport									
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# Picklist Print

July-12-13 10:30:44 AM

Page 1

Work Order ID: 104613

Parent Item: D6202

Parent Item Name: I-Beam Extrusion

Start Date: 7/12/13

Required Date: 7/12/13

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP A: 01.04.19New Issue EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6202P I Beam Extrusion		Purchased	No			110	f	0.0000	1	12		7/13/13	

25

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

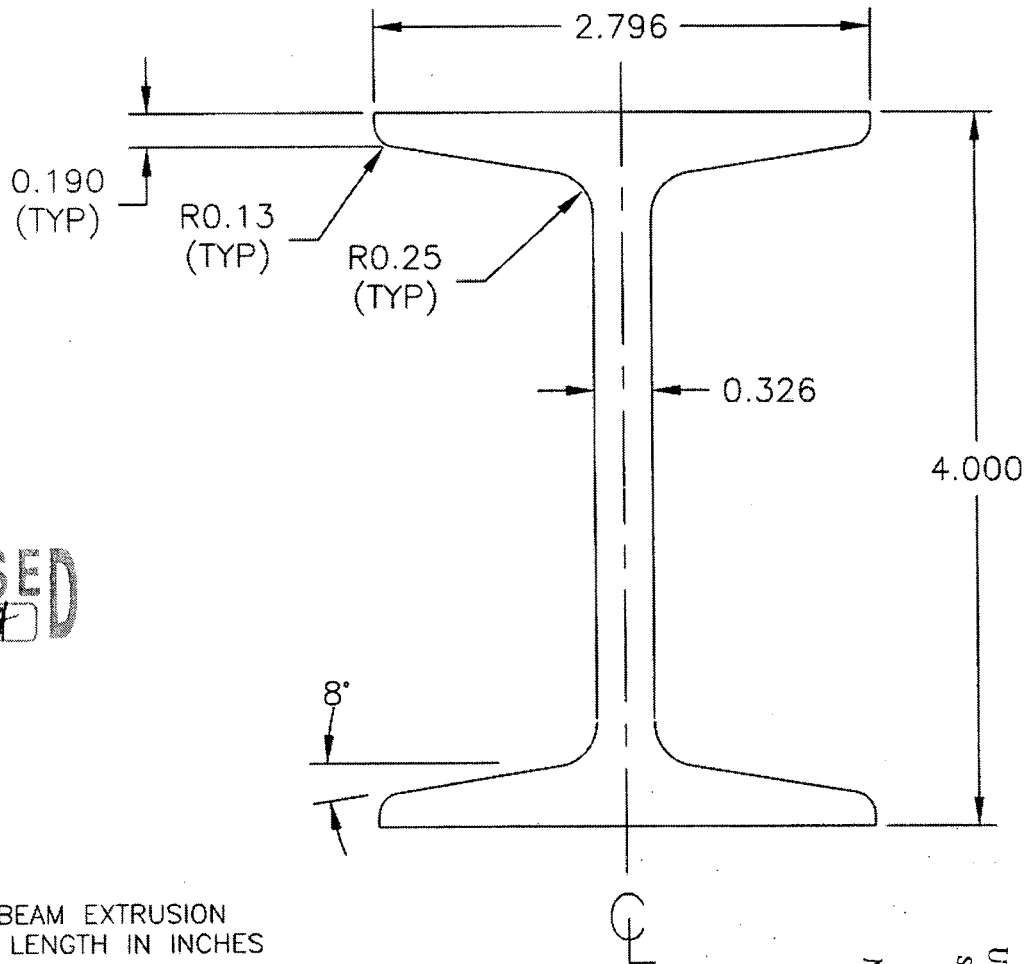
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6202	REV. A SHEET 1 OF 1
DATE 01.04.02		TITLE I-BEAM EXTRUSION	SCALE 1:1
A	01.04.02	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING



D6202-XXX I-BEAM EXTRUSION  
WHERE XXX IS LENGTH IN INCHES

EG.  
D6202-027 IS 27 INCHES LONG

PURCHASE MATERIAL: AMERICAN STD. I-BEAM  
4.000" x 2.796" x 0.326" THICK  
6061-T6/T651 (QQ-A-200/8)  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi  
MINIMUM YIELD TENSILE STRENGTH = 35 ksi

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SHUFAO  
RETURN  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK (GROUP)  
NO-1021613 MJS  
13-07-15

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO21209**

Purchase Order Date 9/5/2013

PO Print Date 9/5/2013

Page Number 1 of 1

Order From :  
RYERSON  
200 DU CHEMINOT  
VAUDREUIL, QUEBEC J7V 5V5

VC-RYS001

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**PAID**  
61309105

Contact Name  
Vendor Phone 450-424-0153

Ship To Contact  
Ship To Phone  
Ship Via: Yours ppd  
Ship Acct:

Buyer  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency CAD  
FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D6202P  AS PER DWG D6202 REV. A B104613	I Beam Extrusion	9/17/2013 Yes 9/17/2013		20.00 f	\$41.25	\$825.00

Line Total: \$825.00

PO Total: \$825.00

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.  
No substitution or deviation without consent.  
Certificate of Conformity or Material Certification required - YES NO  
PST# 6122-5207

Change Nbr: 1

Change Date: 9/5/2013

# RYERSON

## Shipping Order / Bordereau d'expédition

MO #  
200 RUE DU CHEMINOT  
200 RUE DU CHEMINOT  
Phone/Tel (450) 424-0153

VAUDREUIL-DORION QC J7V 5V5  
VAUDREUIL QC J7V 5V5

Page 1 de 1 09/17/13 08:20 CST  
SO AP  
R Entree/Sortie

Sold to/Facteur a:  
DART AEROSPACE LTD.  
1270, ABERDEEN STREET

Ship to/Expedier a:  
DART AEROSPACE LTD.  
1270, ABERDEEN STREET

S.O. / Bordereau d'expédition

**X6-315700**

P.O. / Bon de commande

21209

# de bon de commande associé: 74212

**Total Packages /**

**Paquets totaux**

**1**

HAWKESBURY ON K6A 1K7 HAWKESBURY ON K6A 1K7 Phone/Tel (613) 632-3336

Ship Via / Expedier par	Freight / Fret	Customer # / # Client	Sales / Ventes	Tax Status / Statut fisca	Contact / Personne ressource	Certs	Due Date / Date due
NOTRE CAMION	Ntr camion PP/tous	1946	21 EB	Imposbl		1	09/16/2013
Bill of Lading / N' du connaissance	Pro Bill / Bordereau d'envoi	Ship Approval / Approbation de l'expédition		Ship Date / Date d'expédition		Order Date / Date de commande	
						09/09/2013	

Line / # de ligne

Item

Description

Qty Shipped/Qté expédiée B.O.Qty/En souffrance

1 5100-0008 6061-T6 I-BEAM 4X 2.80 X .326 X 25'

Qty Comm: 1 Order Qty/Qté commandée 1 UEA Pcs: 1 1.00 UEA  
( 1 LENGTH 93 )

Cntrl: X6C00999 C: 201305625

T: 169137

1 pcs Loc EXP

\*\*\* Filled by Initials/Rempli par initiale: LM

2 7915-9998 ENERGY CHARGE

Order Qty/Qté commandée 1.0000 LOT Pcs: 0 1.00 LOT

Customer/Driver Instructions / Commentaires du client/chauffeur:  
HEURES D'OUVERTURE 7H @ 16H LUN @ VEND DECHARGEMENT AU CHARIOT ELEVATEUR AVANT COTE CHAUFFEUR  
CFC ET MTR REQUIS A LA LIVRAISON

Packing List/Bordereau de marchandises

Received by/ Reçu Par: \_\_\_\_\_ Date: \_\_\_\_\_  
Acceptance of goods constitutes acceptance of our Terms and Conditions, available on our website at [www.Ryerson.com](http://www.Ryerson.com),  
or from your sales representative, or by calling (800) 268-2680.  
L'acceptation des marchandises constitue un consentement a nos termes et conditions, qui sont disponibles  
sur notre site web [www.ryerson.com](http://www.ryerson.com), ou par votre representant interne, ou par telephone (800) 268-2680.

Alloys of Aluminum, Copper, Steel **Caution:**

Processing of this material may present a physical and or health hazard. See material safety data sheets for further information

Les alliages d'aluminium, de cuivre, d'acier **Avertissement:**  
le Traitement de ce matériel peut présenter un risque physique et ou  
pour la santé. Pour de plus ample information voir les fiches.

S30910FH003-1 RYERSON VAUDREU PO: 742129 Part #:  
1.00PC 85.00LB

YARDE METALS Inc 09-11-13



**SERVICE CENTER METALS**  
5850 Quality Way  
Prince George, VA 23875

## CERTIFIED INSPECTION REPORT AND TEST RESULTS FOR EXTRUDED PRODUCTS

OUR ORDER NUMBER	ITEM
169137	7

<b>BILL TO</b> YARDE METALS	<b>MANIFEST NUMBER</b> 185496	<b>DR NUMBER</b> BS0291	<b>DATE OF SHIPMENT</b> 3/26/2013	<b>CERTIFICATION</b> ASTM-B308-10 SPOT STENCIL
<b>SHIP TO</b> YARDE METALS-Southington CT	<b>CUSTOMER PO</b> P30206CG014 CT	<b>ALLOY/TEMPER</b> 6061-T6	<b>SALESPERSON</b> Ellis Williams	<b>SPECIFICATION</b> ASTM-B221-12a
Quantity Certified 2,053 lbs 25pcs	<b>CUSTOMER PART NUMBER</b> BS0291	<b>DESCRIPTION</b> ASI 4.000x2.796x.326		<b>SPECIFICATION</b> AMS-QQA-200/8

We hereby certify that the material covered by this report has been inspected in accordance with the most recent certification revision, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown.  
SCM extrusions are manufactured in the USA.

Mechanical Properties		Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation
Tests	Lot No.				
1	201305323	03/20/13	43.4	41.4	11.9
1	201305625	03/21/13	45.1	42.8	11.3

YARDE METALS, INC. CERTIFIES THAT  
THIS IS A TRUE COPY OF THE ORIGINAL  
MILL TEST REPORT NOW ON FILE.  
RECEIVED AND INSPECTED

MAR 27 2013

BY   
Ryan McDonald, Certification Processor

13/09/13

### Chemical Composition for Aluminum Alloy 6061

Cast Number	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	AL	Others		Melt Source:
											Each	Total	
C67R0410	6061	0.63	0.17	0.17	0.02	0.85	0.06	0.01	0.01	98.08	0.05	0.15	United States of America
C67R0412	6061	0.61	0.15	0.17	0.01	0.84	0.06	0.01	0.01	98.14	0.05	0.15	United States of America

Print Date: 3/26/2013

Calvin J. Wiggins, Director of Quality & Technical Services

Rev. 9/23/11 - UMS